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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 29-33, 35-59 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 29-33, 35-49, 51, 55, 56, and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Weeks, US 5,152,221 A (hereafter Weeks).
 - a. Regarding claim 29, Weeks teaches a doctor blade mounting system for applying liquids to a rotatable cylinder in printing equipment comprising: an elongated frame mounted adjacent to said rotatable cylinder (18, 29, Fig. 1), said elongated frame including a support and a clamping portion mounted with respect to said support (19, Fig. 1), said clamping portion including an elongated slit having a first side and a second side defining an opening (slit 20, Fig. 1), a doctor blade disposed within said elongated slit parallel to said rotatable cylinder for operative wiping engagement with said rotatable cylinder, said doctor blade including a first side and a second side corresponding to said first and second sides of said elongated slit, respectively (17, Fig. 1), and clamping

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means for fixing said doctor blade within said elongated slit (31, Fig. 2), said second side of said elongated slit presenting a substantially planar surface for said second side of said doctor blade, whereby said doctor blade can be held along said substantially planar surface of said second side of said elongated slit with a substantially even clamping force (see arrangement of blade 17 and clamping means 31 in slit 20, Fig. 2), said clamping means comprising an elastomeric material disposed within said elongated slit and accessible for removal from said opening in said slit with said doctor blade disposed therein whereby said elastomeric material is resiliently disposed with respect to said first side of said doctor blade to provide a damping action for said doctor blade (“a suitable material for the resilient strips is a 60 durometer rubber,” col. 5, ll. 25-27), and is removable from said opening to assist in subsequent removal of said doctor blade from said elongated slit (it appears that clamping member 31 is removable from slit 20, Fig. 1).

b. Regarding claim 40, Weeks teaches a doctor blade mounting system comprising a doctor blade clamping portion comprising: a solid material (19, Fig. 1) and including a slit including a first side and a second side defining an opening for receiving a doctor blade (20, Fig. 1), said doctor blade including a first side and a second side corresponding to said first and second sides of said slit, respectively (17, Fig. 1), and clamping means for clamping said doctor blade within said slit (31, Fig. 1), said second side of said slit presenting a substantially planar surface for said second side of said doctor blade, whereby said doctor blade can be held along said substantially planar surface of said second side of said slit with a substantially even clamping force (see

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arrangement of blade 17 in slot 20, Fig. 1), said clamping means comprising an elastomeric material disposed within said elongated slit and accessible for removal from said opening in said slit with said doctor blade therein whereby said elastomeric material is resiliently arranged to provide a damping motion for said first side of said doctor blade (“a suitable material for the resilient strips is a 60 durometer rubber,” col. 5, ll. 25-27), and is removable from said opening to assist in subsequent removal of said doctor blade from said elongated slit (it appears that clamping member 31 is removable from slit 20, Fig. 1).

c. Regarding claims 30 and 41, Weeks teaches the doctor blade mounting system of claims 29 and 40, as discussed in the rejection of claims 29 and 40 above. Weeks also teaches wherein said clamping means is tightly received within said elongated slit (it appears that 31 is tightly received in slit 20, Fig. 2).

d. Regarding claims 31 and 42, Weeks teaches the doctor blade mounting system of claims 29 and 40, as discussed in the rejection of claims 29 and 40 above. Weeks also teaches wherein said clamping means fixes said doctor blade by means of friction (it appears that blade 17 and clamping means 31 create friction when inserted into slot 20, Fig. 2).

e. Regarding claims 32 and 43, Weeks teaches the doctor blade mounting system of claims 29 and 40, as discussed in the rejection of claims 29 and 40 above. Weeks also teaches wherein said clamping means supports at least said first side of said doctor blade disposed within said elongated slit (31 supports one side of 17, Fig. 2).

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f. Regarding claims 33 and 44, Weeks teaches the doctor blade mounting system of claims 29 and 40, as discussed in the rejection of claims 29 and 40 above. Weeks also teaches wherein said clamping means is resiliently disposed within said elongated slit (31 is a resilient rubber, col. 5, ll. 25-27).

g. Regarding claims 35 and 46, Weeks teaches the doctor blade mounting system of claims 29 and 40, as discussed in the rejection of claims 29 and 40 above. Weeks also teaches wherein said clamping means comprises at least one elastomeric member ("a suitable material for the resilient strips is a 60 durometer rubber," col. 5, ll. 25-27).

h. Regarding claims 36 and 47, Weeks teaches the doctor blade mounting system of claims 35 and 46, as discussed in the rejection of claims 35 and 46 above. Weeks also teaches wherein at least a portion of said elastomeric member is in the shape of a wedge strip comprising a shape intended to fit and lock within a cross-section profile of said elongated slit (member 31 appears to fit and lock in slit 20, Fig. 2).

i. Regarding claims 37 and 48, Weeks teaches the doctor blade mounting system of claims 35 and 46, as discussed in the rejection of claims 35 and 46 above. Weeks also teaches wherein at least a portion of said clamping means supports an edge of said doctor blade disposed within said elongated slit (it appears that an edge of blade 17 is supported by 31, Fig. 2).

j. Regarding claims 38 and 49, Weeks teaches the doctor blade mounting system of claims 35 and 46, as discussed in the rejection of claims 35 and 46 above. Weeks also teaches wherein said elastomeric member has a hardness of about 70 degrees

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Shore ("a suitable material for the resilient strips is a 60 durometer rubber," col. 5, ll. 25-27; 60 appears to be "about" 70).

k. Regarding claim 39, Weeks teaches the doctor blade mounting system of claim 29, as discussed in the rejection of claim 29 above. Weeks also teaches wherein said support and said clamping portion comprise separate parts (19 and 31 are separate parts, Fig. 2), and said support includes at least one end portion, and wherein said clamping means resiliently clamps said clamping portion to said end portion of said support (see arrangement of 19 and 31, Fig. 2).

l. Regarding claim 45, Weeks teaches the doctor blade mounting system of claim 40, as discussed in the rejection of claim 40 above. Weeks also teaches wherein said clamping means is removably disposed within said slit (31 is removable from slit 20, Fig. 2).

m. Regarding claim 51, Weeks teaches a method for removably clamping a doctor blade in a clamping member comprising: an elongated clamping member comprising solid material (19, Fig. 2), said elongated clamping member including a first side and a second side defining a slit including an opening for introduction of said doctor blade including a first side and a second side corresponding to said first and second sides of said slit, respectively (20, Fig. 2), said method comprising inserting a portion of said doctor blade into said slit through said opening with said second side of said slit presenting a substantially planar surface for said second side of said doctor blade (17, Fig. 2), whereby said doctor blade can be held along said substantially planar surface of said second side of said slit with a substantially even clamping force, and thereafter

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inserting resilient clamping means into said slit through said opening for resiliently supporting said first side of said doctor blade within said slit (31, Fig. 2).

n. Regarding claim 55, Weeks teaches a method for removably attaching a doctor blade clamping portion (19, Fig. 1) to a support having at least one end portion (18, Fig. 1), said doctor blade clamping portion including a first slit including a first opening (20, Fig. 1) and a second slit including a second opening (25, Fig. 1), said first slit having a first side and a second side and intended to accommodate said doctor blade (17, Fig. 1), and said second slit having a first side and a second side, said second side of said first slit presenting a substantially planar surface for one side of said doctor blade, whereby said doctor blade can be held along said substantially planar surface of said second side of said first slit (see arrangement of doctor blade in 19, Figs. 1, 2), said method comprising introducing said at least one end portion of said support (18, Fig. 1) into said second opening of said second slit and inserting resilient clamping means into said second opening of said second slit for resiliently supporting said at least one end portion of said support within said clamping portion (32, Figs. 1, 2).

o. Regarding claim 56, Weeks teaches the method of claim 55, as discussed in the rejection of claim 55 above. Weeks also teaches wherein said second side of said second slit presents a substantially planar surface for one side of said support, whereby said support can be held along said substantially planar surface of said second side of said second slit (see arrangements of 18 in slit 25, Figs. 1 and 2).

p. Regarding claim 58, Weeks teaches the doctor blade mounting system of claim 29, as discussed in the rejection of claim 29 above. Weeks also teaches wherein said

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doctor blade has a thickness of between about .06 mm and 2 mm ("the working blade section 17 may have a thickness of approximately .008 inch," col. 4, ll. 25-27), and wherein said elastomeric material comprises a material softer than said doctor blade ("a suitable material for the resilient strips is a 60 durometer rubber," col. 5, ll. 25-27).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bööse et al., US 5,671,673 A (hereinafter Bööse) in view of Weeks.

Bööse teaches a chambered doctor blade mounting system (Fig. 1) for applying liquids to a rotatable cylinder (2, Fig. 1) in printing equipment comprising an elongated

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frame (13, Fig. 1) mounted adjacent to said rotatable cylinder, said elongated frame comprising a support and a pair of clamping portions (19, 20, Fig. 1) , a pair of elongated doctor blades (9, 10, Fig. 1) mounted on said pair of clamping portions whereby said pair of elongated doctor blades are disposed parallel to said rotatable cylinder for operative wiping engagement with said rotatable cylinder (blades 9, 10, parallel to roller 2, Fig. 1), each of said pair of clamping portions including an elongated slit for receiving each of said pair of elongated doctor blades (blades held in a "slit" between two pieces of metal, Fig. 1), said pair of clamping portions and said support comprising separate parts (clamping portions appear to include two metal strips and several fasteners, Fig. 1), said support including a pair of end portions, and clamping means resiliently clamping said clamping portion to said pair of end portions of said support (it appears that the clamping portions are resiliently clamped, Fig. 1). The examiner is interpreting "resilient" to mean "characterized or marked by resilience: as capable of withstanding shock without permanent deformation or rupture" (Merriam-Webster online dictionary at m-w.com). It appears the metallic clamping apparatus of Bööse is capable of withstanding shock without permanent deformation or rupture: for example, it is well-known that metals can be bent without causing permanent deformation or rupture.

Bööse does not teach said slit including an opening; said clamping means comprising an elastomeric material disposed within said elongated slit and accessible from said opening in said slit whereby said elastomeric material is resiliently disposed with respect to said doctor blade to provide a damping action for said doctor blade, and

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is accessible from said opening to assist in removing said doctor blade from said elongated slit.

Weeks teaches a doctor blade mounting system for applying liquids to a rotatable cylinder in printing equipment comprising: an elongated frame mounted adjacent to said rotatable cylinder (18, 29, Fig. 1), said elongated frame including a support and a clamping portion mounted with respect to said support (19, Fig. 1), said clamping portion including an elongated slit having a first side and a second side defining an opening (slit 20, Fig. 1), a doctor blade disposed within said elongated slit parallel to said rotatable cylinder for operative wiping engagement with said rotatable cylinder, said doctor blade including a first side and a second side corresponding to said first and second sides of said elongated slit, respectively (17, Fig. 1), and clamping means for fixing said doctor blade within said elongated slit (31, Fig. 2), said second side of said elongated slit presenting a substantially planar surface for said second side of said doctor blade, whereby said doctor blade can be held along said substantially planar surface of said second side of said elongated slit with a substantially even clamping force (see arrangement of blade 17 and clamping means 31 in slit 20, Fig. 2), said clamping means comprising an elastomeric material disposed within said elongated slit and accessible for removal from said opening in said slit with said doctor blade disposed therein whereby said elastomeric material is resiliently disposed with respect to said first side of said doctor blade to provide a damping action for said doctor blade ("a suitable material for the resilient strips is a 60 durometer rubber," col. 5, ll. 25-27), and is removable from said opening to assist in subsequent removal of said doctor

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blade from said elongated slit (it appears that clamping member 31 is removable from slit 20, Fig. 1).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Bööse to include the blade mounting system of Weeks, because one having ordinary skill in the art could easily combine these known prior art elements, and such a combination would predictably provide a doctor-blade clamping mechanism that is mechanically simple yet effectively firmly clamps a doctor blade.

7. Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weeks.

a. Regarding claim 52:

Weeks teaches the doctor blade mounting method of claim 51 as discussed in the rejection of claim 51 above. Weeks also teaches that the clamping means generates friction against the doctor blade.

Weeks does not teach lubricating said clamping means prior to inserting said clamping means into said slit.

One having ordinary skill in the art would know that application of lubricant would help reduce friction.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Weeks by lubricating said clamping means prior to inserting said clamping means into said slit, because one having ordinary skill in the art

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would realize this would predictably reduce the friction and thereby the effort required to insert the clamping means into the slit.

b. Regarding claim 53, Weeks teaches the doctor blade mounting method of claim 52 as discussed in the rejection of claim 52 above. Weeks also teaches wherein said clamping means comprising an elastomeric member ("a suitable material for the resilient strips is a 60 durometer rubber," col. 5, ll. 25-27), and including manually inserting said clamping means into said slit (31 is inserted into 20, Fig. 2).

8. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weeks in view of Bööse.

Weeks teaches the doctor blade mounting method of claim 52 as discussed in the rejection of claim 52 above.

Weeks does not teach attaching said clamping means to a substantially U-shaped support.

Bööse teaches a chambered doctor blade with a U-shaped support (16, Fig. 1).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Weeks to include a U-shaped support in place of support 18, because Bööse teaches that it is well-known to use doctor blades on U-shaped supports, and such a combination would predictably allow the blade system of Weeks to be used in a chambered doctor blade system.

9. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weeks in view of Van Denend, US 5,524,540 (hereinafter Van Denend).

Weeks teaches the doctor blade mounting system of claim 29 as discussed in the rejection of claim 29 above.

Weeks does not teach wherein said elastomeric material comprises a first elastomeric material, and including a second elastomeric material disposed within said elongated slit on said second side of said doctor blade thereby providing said substantially planar surface.

Van Denend teaches applying an elastomeric member (108, Fig. 4) to a doctor blade (102, Fig. 4).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Weeks by attaching an elastomeric strip to the doctor blade as taught by Van Denend, because one having ordinary skill in the art would recognize that this could predictably provide additionally damping of said doctor blade by providing a resilient surface between the doctor blade and the wall of the slot in the clamping member.

10. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weeks in view of Perez, US 6,431,066 B1 (hereinafter Perez).

Weeks teaches the doctor blade mounting system of claim 29 as discussed in the rejection of claim 29 above.

Weeks does not teach wherein only up to about 30% of the entire length of said doctor blade is disposed within said elongated slit.

Perez teaches a doctor blade (5, Fig. 1) inserted into a slit in a clamping member (9, Fig. 1), where the majority of the doctor blade is outside of the slit.

It has been held that routine experimentation to optimize a value is not sufficient to patentably distinguish an invention over the prior art. See MPEP § 2144.05(II).

It is within the skill of one having ordinary skill in the art to optimize the design of a doctor blade clamping system to determine the optimum parameters.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Weeks wherein only up to about 30% of the entire length of said doctor blade is disposed within said elongated slit, because one having ordinary skill in the art could arrive at this value through routine experimentation, which would be motivated by determining the blade extension percentage between that taught by Weeks and that taught by Perez, to arrive at the optimal blade extension percentage.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is 571.272.2864. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571.272.2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leo T. Hinze
Patent Examiner
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18 June 2009

/Judy Nguyen/
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